IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-10. (*Cancelled*)

11. (*New*) Bioactive dishes for cell cultures comprising on their bottom a bilayer comprising an internal primary layer made of hydroxypropylmethylcellulose (HPMC), or polyvinyl alcohol (PVA) in contact with the bottom of the dishes, and an external bioactive layer made of carboxypropylmethylcellulose situated on said internal layer.

12. (*New*) Bioactive dishes according to claim **11**, wherein the bioactive dishes are presented in the form of Petri dishes, such as polystyrene Petri dishes of commercial origin, or in the form of multi-well plates, on the bottom of which the bilayer is situated.

13. (*New*) Bioactive dishes according to claim **11**, wherein the thicknesses of the internal HPMC or PVA layer, and of the external CMC layer, are a few microns, in particular approximately 1 to 5 microns.

14. (*New*) Method for preparing bioactive dishes according to claim **11**, said method comprising:

a stage of activation of the surface of the bottom of the dishes by electromagnetic discharges,

depositing the internal HPMC layer on the bottom of the dishes, then drying, and

depositing the external bioactive layer on the dried primary layer obtained in the preceding stage, then drying.

15. (*New*) Bioactive dishes according to claim **11**, to carry out:

methods for studying cell ageing, cell differentiation, and apoptosis,

methods for screening anti-ageing molecules intended to prevent and delay the effects of ageing,

methods for screening antitumor molecules intended for the treatment of cancer,

methods for *in vitro* diagnosis of tumor-cell malignancy by measurement of the residual ability of cancer cells to differentiate, and to enter into apoptosis and therefore methods for *in vitro* tumor prognosis, and

study methods relating to research into signalling controlling morphology, bioadhesion, cell proliferation and intercellular communication.

16. (*New*) Method for screening anti-ageing molecules intended to prevent and delay the effects of ageing, said method comprising:

a stage of culturing cells, such as fibroblasts, in the presence of the anti-ageing molecules to be studied, in the culture dishes defined in claim **11**,

observing the cells by microscope in order to study their morphology, and/or the detection, or even the quantification, of the proliferation and syntheses, and

comparing the observations and results obtained on cultures of cells used as controls, said control cultures being carried out by culturing said cells in the dishes in the absence of said anti-ageing molecules to be studied.

17. (*New*) Method for screening antitumor molecules intended for the treatment of cancer, comprising:

a stage of culturing cells, such as animal or human melanoma cells, in the presence of the antitumor molecules to be studied, in the culture dishes defined in claim **11**,

observing the cells by microscope in order to study their morphology and their differentiation, and/or the detection, or even the quantification, of their proliferation, differentiation and apoptosis, and

comparing with the observations and results obtained on cell cultures used as controls, said control cultures being carried out by culturing said cells in the culture dishes in the absence of said antitumor molecules to be studied.

18. (*New*) Method for *in vitro* diagnosis of the malignancy of tumor cells by measurement of the residual ability of cancer cells to differentiate, said method comprising:

a stage of culturing cancer cells, such as human melanoma cells obtained from biopsies, in the culture dishes defined in claim 11,

observing the cells by microscope in order to study their morphology and differentiation, and/or

detecting or quantifying, of their proliferation viability and apoptosis.

19. (*New*) Application of the diagnosis method according to claim **18** to the *in vitro* prognosis of tumors.